



Innovazioni tecnologiche  
trasferite dal mondo della  
ricerca alle aziende  
agroalimentari

Marco Battistella  
[marco.battistella@t2i.it](mailto:marco.battistella@t2i.it) | [innovazione@t2i.it](mailto:innovazione@t2i.it)


t2i - trasferimento tecnologico e innovazione s.c.a r.l.

# INNOVATION FOR AGRO-FOOD TRACEABILITY: **RFID F2F**



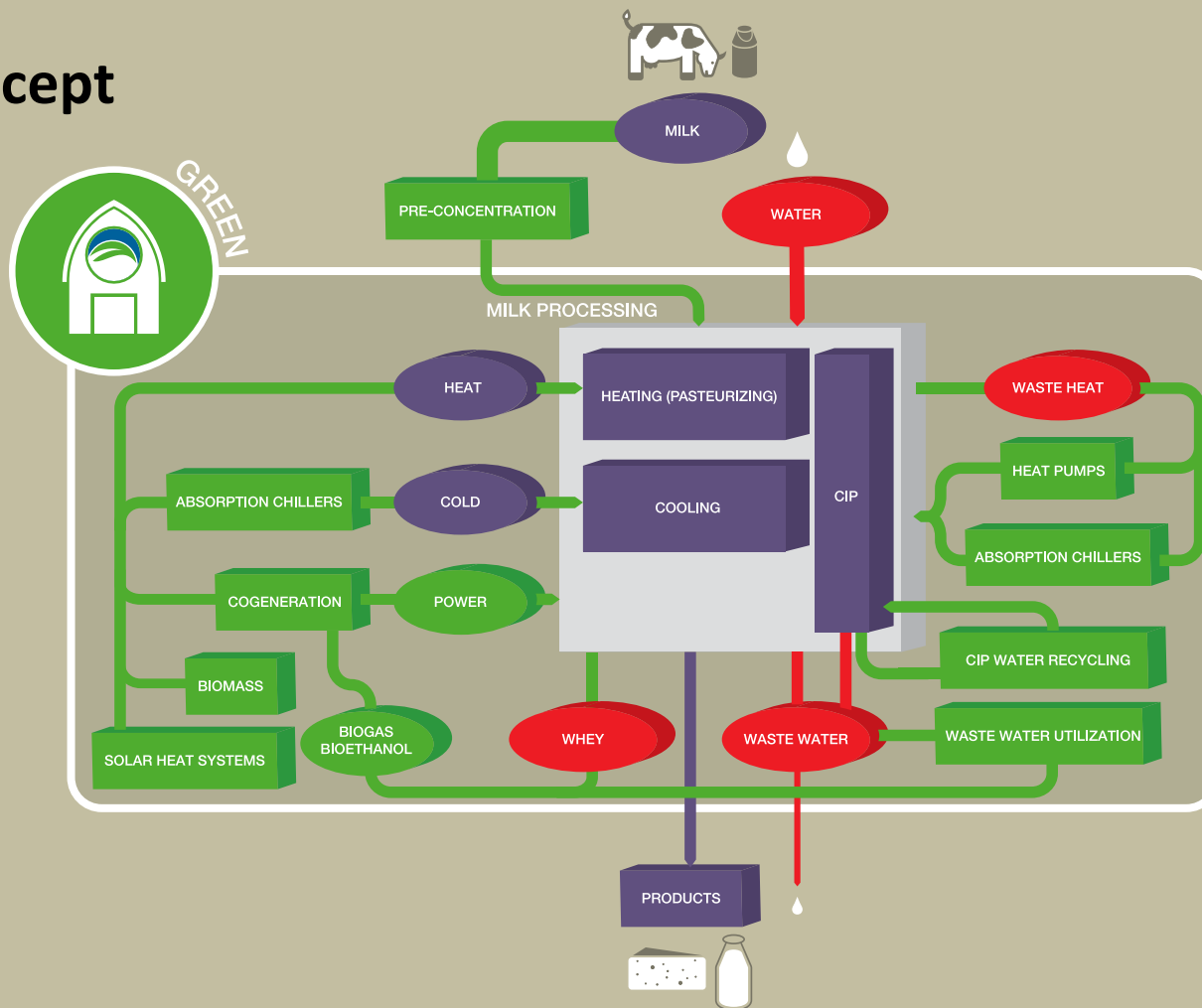
# TECHNOLOGY FACTSHEET:

## RFID F2F

Service	What is	Application	Field of application	Equipment
<b>RFID from Farm to Fork</b> <a href="http://www.rfid-f2f.eu">www.rfid-f2f.eu</a> 	RFID and WSN for supply chain monitoring and product traceability	An IT platform (F2F Food Information System) allows SMEs in the food & drink industry to identify and trace food information along the supply chain from the producer (farm) to the end consumer (fork).	Development of demonstrators in different sectors: fish (2), shellfish (1), meat (1), cheese (2), wine (2). Application in farm, logistics, processing, warehousing, distribution, retail and final consumer.	RFID tags, antennas, readers, handheld devices, sensors, webservice platform.
Improvements			Results	
<ul style="list-style-type: none"> <li>Seeking information about a specific product batch became easier (paper documentation replaced with electronic collection of data);</li> <li>The process to enter data in the system got faster (manual writing of data replaced with RFID labels);</li> <li>Customers awareness about quality information on package regarding the production process has disruptively increased;</li> <li>F2F information system improves products uniqueness compared to competitors (traceability and cold chain data directly related with the product)</li> </ul>			<ul style="list-style-type: none"> <li>Reduced data errors in production (-86%)</li> <li>Reduced time for collecting orders, sorting products, packing and labelling (-50%)</li> <li>Reduced time and costs for recall /shipping errors (-40%)</li> <li>RoI after 5 years = 72%</li> </ul>	




# Concept



# TECHNOLOGY FACTSHEET:

## SUSMILK

Service	What is	Application	Field of application	Equipment
<b>SUSMILK</b> <a href="http://www.susmilk.com">www.susmilk.com</a> 	<i>Re-design of the dairy industry for sustainable milk processing</i>	<i>Milk processing, sustainability, heat and power generation, waste water, solar and waste heat, on-site produced biogas or other renewable fuels.</i>	<i>Analysis and optimization of the whole milk process chain with regard to energy and water consumption. Development and evaluation of innovative technologies tested under real life conditions in 5 dairies.</i>	<i>New concepts and technologies for the supply of heat, cold and power, LCA and decision making tool, exergy-based analysis.</i>

Improvements	Results
<ul style="list-style-type: none"> <li>• <i>new technologies for chilling, heat generation and distribution in dairies</i></li> <li>• <i>membrane filtration for an innovative pre-concentration of milk on-farm</i></li> <li>• <i>new concepts for low temperature drying of milk</i></li> <li>• <i>classifying waste-stream treatments for water savings &amp; energy production</i></li> <li>• <i>LCA of the entire dairy food chain</i></li> <li>• <i>exergy-based analysis to show the full potential of energy and water savings</i></li> </ul>	<ul style="list-style-type: none"> <li>- <i>Reduced water and energy demand in the dairy (-30%)</i></li> <li>- <i>Waste flows into valuable products (80% reuse)</i></li> <li>- <i>Tool for energy simulation scenarios</i></li> <li>- <i>Reduced transportation costs (-50%)</i></li> </ul>




# INNOVATION FOR AGRO-FOOD QUALITY & SAFETY: **SAFETYPACK**



# TECHNOLOGY FACTSHEET:

## SAFETYPACK

Service	What is	Application	Field of application	Equipment
<b>SAFETYPACK</b> <a href="http://www.safetypack-project.eu">www.safetypack-project.eu</a> 	<i>Innovative non-intrusive laser gas sensors on food production for real time quality/safety in line control of food packaging and bottling</i>	<i>Non intrusive, Contactless, Laser Gas Sensor, Real Time, On-line Control, In-Line control, Food quality, Food Safety</i>	<i>Quality/safety in line control of food packaging and bottling systems by measuring the headspace gas composition such as container closure integrity, moisture and O<sub>2</sub>, H<sub>2</sub>O, CO<sub>2</sub> concentration. Installations for dairy and bakery products.</i>	<i>Tunable Diode Laser Absorption Spectroscopy based techniques: for transparent or semitransparent packages (Lpro srl, Italy) and for opaque packages (Gasporox AB, Sweden)</i>
Improvements			Results	
MEASURE HEADSPACE GAS COMPOSITION and HEADSPACE PRESSURE rapidly and NON-DESTRUCTIVELY ALLOWS manufacturers to MONITOR a number of QUALITY parameters in filling/package lines such as e.g. CONTAINER CLOSURE INTEGRITY, MOISTURE AND OXYGEN CONTENT etc.			<i>Validation of 100% of the production measuring the gas content inside close packages in real time</i>	



Innovazioni tecnologiche  
trasferite dal mondo della  
ricerca alle aziende  
agroalimentari

Marco Battistella  
[marco.battistella@t2i.it](mailto:marco.battistella@t2i.it) | [innovazione@t2i.it](mailto:innovazione@t2i.it)

t2i - trasferimento tecnologico e innovazione s.c.a r.l.